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TECHNICAL DATA SHEET

REUSE OF CROSBY SPELTER SOCKETS

The following are general guidelines for the reuse of Crosby 416/417 Spelter Sockets. The use and inspection of used spelter sockets is the responsibility of the user.

I. Procedure for Removing Spelter Core

A. Cut the rope close (1/2") to the nose of the socket and press the cone out of the basket.

B. We do not recommend the use of heat to remove the spelter cone for metallurgical, medical and environmental reasons.

1. However, if this is the only means available for removing the zinc cone, care should be taken not to exceed 850°F (450°C) surface temperature. The preferred method would be slow heat in a temperature controlled oven. If a torch (rosebud) is used, the heat spot shall be monitored with a tempil stick or a temperature indicator to prevent localized heating from exceeding the 850°F (450°C) limit.
2. To remove a **WIRELOCK**® cone, heat the surface of the socket to 350°F (do not exceed the 850°F limit for any localized hot spot). Leave for 5-10 minutes, then drive the cone out with a hammer and drift.

II. Selection of Sockets for Reuse

A. Use only sockets that:
- Do not show discoloration from excessive heating.
- Do not show any signs of welding.

B. Select only sockets that have been cleaned and have passed a Magnetic Particle Inspection by a qualified technician (Level II ASNT-SNT-TC-1A-88) per ASTM E709. Acceptance criteria shall be per ASTM E125, Types II-VIII, Degree 1. No cracks are acceptable.

C. Select only sockets that do not show any signs of overloading or wear on the socket or pin, (i.e. elongated pin holes, undersized pins, etc.).

D. Select sockets that are free from nicks, gouges and abrasions. Indications may be repaired by lightly grinding until surfaces are smooth, provided they do not reduce the dimensions by more than 10% of the nominal catalog dimension.

E. Select sockets that are not distorted, bent or deformed.

Note: Sockets having any of the indications as outlined above (A-E) shall not be reused.

III. Procedures for Speltering Sockets

A. The proper procedure for speltering sockets can be found on pages 112-116 of the *Wire Rope Users Manual*, 2nd Edition, and in *American Petroleum Institute (API) Recommended Practice 9B (RP9B)*, 9th Edition, May 30, 1986.

B. Some standards (API, ISO, BSI) recommend preheating of the zinc spelter socket before pouring. This temperature shall not exceed 850°F (450°C).

IV. Proof Testing

A. We recommend the socket assembly be proof tested at two (2) times the Working Load Limit (2 x WLL) assigned to the socketed assembly.

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WIRELOCK®

WARNINGS AND APPLICATION INSTRUCTIONS

⚠ WARNING

- **Incorrect use of WIRELOCK® can result in an unsafe termination which may lead to serious injury, death, or property damage.**
- **Do not use WIRELOCK® with stainless steel rope in salt water environment applications.**
- **Use only soft annealed iron wire for seizing.**
- **Do not use any other wire (copper, brass, stainless, etc.) for seizing.**
- **Never use an assembly until the WIRELOCK® has gelled and cured.**
- **Remove any non-metallic coating from the broomed area.**
- **Non Crosby sockets with large grooves need to have those grooves filled before use with WIRELOCK®.**
- **Read, understand, and follow these instructions and those on product containers before using WIRELOCK®.**

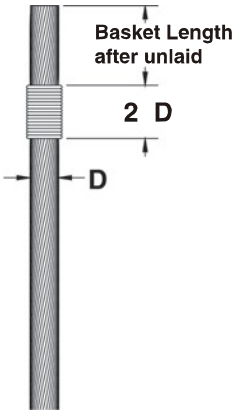
The following simplified, step-by-step instructions should be used only as a guide for experienced, trained users. For full information, consult our document ***WIRELOCK® TECHNICAL DATA MANUAL, API (AMERICAN PETROLEUM INSTITUTE) RECOMMENDED PRACTICE 9B, ISO standards, WIRE ROPE MANUFACTURERS CATALOGS,*** **and** ***WIRE ROPE SLING USERS MANUAL, THIRD EDITION.***

STEP 1 – SOCKET SELECTION

1. **WIRELOCK®** is recommended for use with Crosby 416-417 Spelter Sockets. Structural strand requires a socket with the basket length approximately five (5) times the strand diameter or fifty (50) times the wire diameter, what ever is greater to achieve 100% efficiency. Consult The Crosby catalog for proper selection of Wire Rope or Structural Strand sockets.
2. For use with sockets other than Crosby 416-417, consult the socket manufacturer or Crosby Engineering.
3. Sockets used with **WIRELOCK®** shall comply with Federal or International (CEN, ISO) Standards.
4. **WIRELOCK®**, as with all socketing media, depends upon the wedging action of the cone within the socket basket to develop full efficiency. A rough finish inside the socket may increase the load at which seating will occur. Seating is required to develop the wedging action.

STEP 2 – MEASURE AND SEIZE

The rope ends to be socketed should be of sufficient length so that the end of the unlaid wires (from the strands) will be at the top of the socket basket. Seizing should be placed at a distance from the end equal to the length of the basket of the socket.

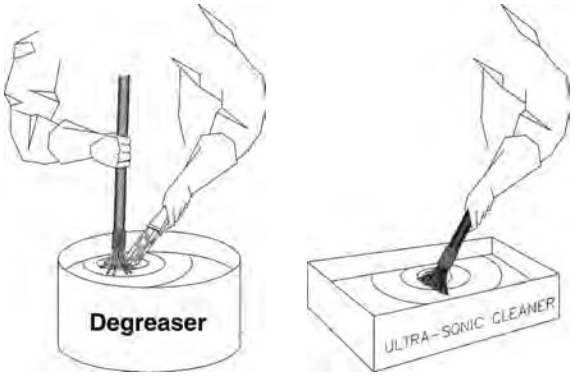


STEP 3 – BROOMING

1. Unlay the individual strands and fully broom out the wires of the wire rope and IWRC as far as the seizing. The wires should be separated but not straightened.
2. Cut out any fiber core.
3. Unlay the individual wires from each strand, including the IWRC, completely down to the seizing.
4. Remove any plastic material from broomed area.

STEP 4 – CLEANING

1. The method of cleaning will depend on the lubricant and/or coating on the wire.
2. The methods and materials used for cleaning should comply with the current EPA regulations.
3. Consult your Wire Rope supplier or Wire Rope manufacturer for recommended material and methods. Follow the solvent supplier's recommendations for cleaning the broomed end.



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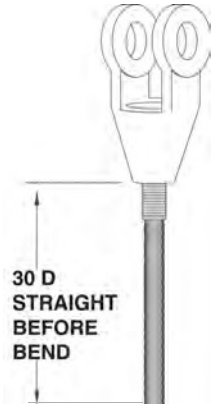
STEP 5 – POSITIONING OF SOCKET

1. Position socket over the broom until it reaches the seizing on the wire rope. The wires should be LEVEL with the top of the socket basket.
2. Clamp rope and socket vertically ensuring alignment of their axes.
3. **CAUTION: DO NOT USE OVERSIZED SOCKETS FOR WIRE ROPE.**



STEP 6 – SEAL SOCKET

Seal the base of the socket with putty or plasticine to prevent leakage of the **WIRELOCK®**.

STEP 7 – WIRELOCK® KITS

1. **WIRELOCK®** kits are pre-measured and consist of two (2) containers – one (1) with resin and one (1) with granular compound.
2. Use the complete kit – **NEVER MIX LESS THAN THE TOTAL CONTENTS OF BOTH CONTAINERS.**
3. Each kit has a shelf life clearly marked on each container and this must be observed. **NEVER USE OUT OF DATE KITS.**

⚠ CAUTION

- **WIRELOCK® resin, in liquid state, is flammable.**
- **Chemicals used in this product can give off toxic fumes and can burn eyes and skin.**
- **Never use out-of-date material.**
- **Use only in well-ventilated work areas.**
- **Never breathe fumes directly or for extended time.**
- **Always wear safety glasses to protect eyes.**
- **Always wear gloves to protect hands.**
- **Avoid direct contact with skin anywhere.**

STEP 8 – MIXING AND POURING

1. Mix and pour **WIRELOCK®** within the temperature range of 48 degrees to 95 degrees F. Booster kits are available for reduced temperatures.
2. Wirelock is set up to gel in 20 minutes @ 65°F. For every 18° rise in temperature the gel time will halve. At 83°F the gel time will be 10 minutes and at 101°F it will be 5 minutes. To give extra working time or pot life it is worth considering refrigerating the kits for two hours priot to mixing and pouring. The temperature of the socket will affect the cure time as well. The socket should also be as cool as possible - out of direct sunlight, as an example.
3. Pour all the resin into a container containing all the granular compound and mix thoroughly for two (2) minutes with a flat paddle.
4. The **WIRELOCK®** will turn a green blue color. If it does not turn a green blue color after mixing, DO NOT USE.
5. Immediately after mixing, slowly pour the mixture down one side of the socket until the socket basket is full.
6. Check for leakage at nose of socket, add putty if required.

STEP 9 – CURING

1. **WIRELOCK®** will gel in approximately fifteen (15) minutes, in a temperature range 65 degrees F to 75 degrees F.
2. The socket must remain undisturbed in the vertical position for an additional ten (10) minutes after gel is complete.
3. The socket will be ready for service sixty (60) minutes after gelling.
4. Never heat sockets to accelerate gel or curing.

STEP 10 – RE-LUBRICATION

Re-lubricate wire rope as required.

STEP 11 – PROOF LOADING

Whenever possible, the assembly should be proof loaded in accordance with ASME B30.9-2.6.

ALTERNATE SEIZING AND BROOMING METHOD

Reference the ***WIRELOCK® TECHNICAL DATA MANUAL*** from Crosby for an alternative socketing method.

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